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About This Guide

The LiveOps On-Demand Contact Center Platform enables enterprises to rapidly and easily deploy scalable contact center solutions. The heart of the LiveOps platform is its ability to route calls to the right Agent. This LiveOps Call Routing Guide describes the LiveOps call routing capabilities. It explains the call routing components and shows how they interrelate. This Routing Guide concludes by presenting several real world examples to show you how to configure your Contact Center to satisfy various routing scenarios.

Content & Organization

Table 0-1: LiveOps Call Routing Guide Organization

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Intended Audience

This LiveOps Call Routing Guide is intended for Contact Center administrators, or any reader who wishes to understand how the LiveOps On-Demand Contact Center Platform routes calls.

What You Should Know Before You Begin

This LiveOps Call Routing Guide assumes that you, the reader, are familiar with basic call center concepts, such as call routing and distribution mechanisms utilized by other call center platforms. You may also know about agent statistics, IVRs, call queues, etc. However, even if you are new to the concept of call
routing, this Routing Guide should be of value. It was written with a minimum of jargon or technical terminology to support as broad an audience as possible.

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## Typographical Conventions

Throughout this guide, we use font color to denote the following:

- **Commands, button or menu names**
- **Terms and concepts** as they are introduced for the first time
- **Method or variable names**
- **User input**
- **Table or Figure caption**

In addition, we use a few icons to call out helpful information:

- **Tip**—advice or suggestions that will make your experience with the product more effective or enjoyable.
- **Note**—A possible catch or "gotcha" to watch out for or keep in mind.
- **See Also**—a reference to further reading material or resources.

If a term appears as a green link, you can follow that to see the LiveOps On-Demand Contact Center Platform Glossary entry for that term.

Finally, you can easily navigate throughout the LiveOps Call Routing Guide using the breadcrumb links at the top of each page, or you can jump to the next or previous chapters using links at the top and bottom of each chapter.

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## Feedback

If you have comments or suggestions on this document, please send them via email to techpubs@lists.liveops.com.

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1. Contact Center Call Routing Components

Routing Component Overview
The LiveOps On-Demand Contact Center Platform defines 9 components that control call routing. Most of these components are expressed as familiar call center business objects, while a few are more technical:

- **Callcenter**—a “virtual tenant” of the LiveOps On-Demand Contact Center Platform.
- **Clients**—highest level component within a callcenter.
- **Programs**—differentiate the main project, product or service offerings, or grouping of Campaigns.
- **Campaigns**—represent Program variations and are the primary call configuration object.
- **Offers**—allow even greater service differentiation and provide an optional Agent “screen pop” system.
- **Routing Attributes**—describe Agent characteristics and provide a way to rank them.
- **Pools**—dynamically group the best qualified Agents based on their Attributes.
- **Agents**—handle the call.
- **IVR**—Interactive Voice Response scripts can execute call routing decisions, enable telephony features and provide “Agent free” caller interactivity.
- **Incoming Numbers**—are the telephone numbers dialed by your callers to reach your Campaigns.

The main LiveOps call routing components are hierarchical, describing a "one to many to many" relationship:

- Clients have one or more Programs; Programs are made up of one or more Campaigns; each Campaign draws from one or more Pools. Agents belong to Pools based on their Routing Attributes. Campaigns can display various Offers (screen pops), if needed.

Each of these components is described in more detail below.

Clients
The Client is the tenant of the Contact Center. It is for their project, product or service that the call comes in and it is most likely their advertising, promotions or other efforts that are responsible for generating the call. The Client component has no functional role in call routing.

A Client can have multiple Programs (see below). For example, a Client might have one Program for pre-sales calls, one for customer service and a third Program for technical product support.

Programs
A Contact Center Program represents a general class of project, product or service being offered to callers. Programs provide a way of grouping related Campaigns (described below), as such, running reports on a specific Program can be a way to aggregate large amounts of data or see overall trends in your call center performance. Like the Client component, Programs provide no call routing or telephony configuration options.

Each Program can have as many Campaigns as needed. For example, the Customer Service Program might have one Campaign for English language calls and a second Campaign for Spanish.

Campaigns
Campaigns are the primary call routing object in the LiveOps On-Demand Contact Center Platform. The Campaign is where you configure the bulk of Contact Center’s call routing and telephony options. Specifically, it is at the Campaign level that you specify from which Agent Pools to draw Agents to answer the calls. Campaigns let you define which IVRs to play when callers arrive or are placed in the queue or are put on hold. You can also set up call transfer and forwarding options here.

If you are using the LiveOps Offer system (see below) to provide Agent screen pops, your Campaigns will define which Offers to load and under what circumstances to load them.

Offers
The LiveOps On-Demand Contact Center Platform uses Offers to further differentiate Campaign details. An Offer can display a script URL to Agents receiving a call. Offers can also display screen pops built with the LiveOps scripting system. LiveOps scripts can collect user information and display data from various data sources, including data gathered by IVR or ASR (automated speech recognition) programs and external databases. Fields displayed in a LiveOps script include a wide set of global fields (name, address, phone number, etc.), as well as fields specific to your Program. All of these are available to the LiveOps Report Tool.

Use of the Offer system is optional. Your Contact Center may not need this feature.

Routing Attributes
A Routing Attribute describes some characteristic or aspect of an Agent. Typical uses for Routing Attributes are to quantify and rank an Agent’s product knowledge, language capabilities, certifications, and the like. Routing Attributes are defined generically for your entire Contact Center: you give the Attribute a name, a data type and an optional default value. You can then set new Attribute values for individual or groups of existing Agents. The Report Tool can generate lists of Agents with specific Attribute values. (You can specify which attributes are reportable).

Routing Attributes are used to determine membership in an Agent Pool (see below).

Attribute configuration is described in more detail in Chapter 3 of this LiveOps Call Routing Guide.

Pools

A Pool is a dynamically determined group of Agents. Pool “rules” select Agents based on the Routing Attributes you specify. You can sort and weight rules to create selection algorithms without programming. Agents who share similar Routing Attributes belong to the same Pool. You can create general Pools that admit all of your Agents, as well as more selective Pools, where only your best Agents, or those with a particular skill, will be admitted.

Pools are shared across your entire Contact Center. Any Campaign can draw from any Pool (though it is easy to design a scenario where Agents will only get calls from a specific Campaign.)

Pool configuration is described in more detail in Chapter 4 of this LiveOps Call Routing Guide.

Agents

An Agent is simply a Contact Center user who belongs to the Agent permissions group. Agents use the Phone Panel to go online and then receive calls routed through the LiveOps On-Demand Contact Center Platform. Each Agent you create can be assigned Attribute values: these determine the Pools to which the Agent belongs.

IVR

The LiveOps On-Demand Contact Center Platform’s IVR system provides more than simple caller interactivity. There are three types of IVRs used in the LiveOps On-Demand Contact Center Platform:

1. **Initial IVR**—initial IVRs are useful if there is a reason for every caller to hear a message prior to speaking with an Agent.
2. **Queue IVR**—if no agents are available to answer the call, Contact Center will play a Queue IVR message while it continuously looks for an available Agent. If no Queue IVR is configured for the Campaign, then calls will busy out if no Agents are available to accept them.
3. **Hold IVR**—this is the IVR that the caller will hear if an Agent places the call on hold.

IVRs in the LiveOps platform are built in JavaScript. This means they are extensible and can be customized to enhance the caller’s experience. Commonly requested IVR scripts include:

- Time of day configuration
- Holiday messages
- Menu-prompting/branching
- Music
- Transfer upon thresholds
- Custom marketing messages

Contact your Client Services Manager for information on additional IVR capabilities and the process for adding a new IVR to your LiveOps On-Demand Contact Center Platform.

Live Announcements

You also have the ability to introduce messages into the queue. For example, you may be experiencing a technical problem and everyone in your organization calls to report it. You can turn on either a pre-recorded Live Announcement (if you expect the problem to occur occasionally) or an ad hoc announcement recorded as needed to inform callers that you are aware of the problem. In the case of the ad hoc announcement, you can even include ticket details for callers to reference for resolution information.

Incoming Numbers

LiveOps is a Responsible Organization ("resporg") and can provision one or more incoming telephone numbers (DNIS) to support your needs. You can also provide your own 800 numbers to be part of your Contact Center. You can then assign incoming numbers to your Campaigns. When a caller dials that number, the call is directed by the LiveOps On-Demand Contact Center Platform to that Campaign, and the routing decisions configured in that Campaign are implemented.

You will need to work with your LiveOps Client Services Manager to provision or import your DNIS.
2. Routing Mechanics

Routing Mechanics Overview

In this chapter, we explore the mechanics of an incoming call. Routing a call is essentially a five step process:

1. The caller dials an inbound number provisioned by LiveOps.
2. The call is either forwarded immediately to another number (if specified) or handled by an Initial IVR (if one is configured for this Campaign).
3. Contact Center selects an Agent Pool.
4. An Agent in the selected Pool receives the call, or
5. If no Agents are available, the call is placed in the queue.

Each of these steps is described in further detail below. With the exception of the actual creation of the IVRs (Initial and queue), all these steps can be configured without programming via the Contact Center web based interface. Chapter 6 demonstrates this configuration.

Step 1. The Caller dials an inbound number

Every inbound Campaign in the LiveOps On-Demand Contact Center Platform has one or more telephone numbers associated with it. These numbers are routed by our telephony carriers to Contact Center, which in turn directs the call to the proper Campaign.

Your incoming numbers may have already been "provisioned" and attached to your Campaigns. If you need more information about your inbound telephone numbers, consult your LiveOps Client Services Manager.

Step 2. Forwarding and Initial IVR handling

Depending on how your Campaign is configured, the incoming call can head in one of several directions.

2.1 Call Forwarding

If you have set your Campaign to forward directly to another number, the call is accepted from the carrier and then immediately forwarded to that number, bypassing any further handling by this Campaign.

2.2 Initial IVR

If you have set up an Initial (or "Pre") IVR for this campaign, the call is accepted from the carrier and then directed to the IVR. What happens next depends on how the IVR is programmed. Usually, Initial IVRs first play some audio. They can also request some input from the user in the form of touch tone ("DTMF") or voice responses. Based on the users' input, the IVR may transfer the call to another Campaign or to a telephone number, or it may transfer the call to the queue. If this Campaign has a queue IVR specified then that IVR begins. If the Campaign does not have a queue IVR, and there is no available Agent to accept the call, the call will fail and the caller will be disconnected.

Step 3. Agent Pool Selection

After any Initial IVR handling, Contact Center will immediately begin to search for an Agent. Contact Center does this by first selecting a Pool, then selecting the best available Agent from that Pool. This process is described in detail below.

During this time, the call is placed in the queue, even if just for a few seconds. (For this reason, queue IVRs generally begin by playing ringing tones, so the caller's transition to a live Agent is made smooth.) If Contact Center finds an available Agent, it initiates an outbound connection to that Agent. When the Agent answers the phone, the queue IVR is ended, and the caller's inbound leg is connected to the Agent. If the Agent fails to answer the phone, Contact Center pauses the Agent (making the Agent unavailable for further calls), keeps the caller in the front of the queue, and continues the search for an Agent to handle the call. If Contact Center cannot find an Agent immediately, and there is a queue IVR specified for the Campaign, the call is placed into the queue until an Agent becomes available. If there is no queue IVR specified for this Campaign, and there is no available Agent to accept the call, the call will not be accepted from the carrier and the caller will hear a "fast busy" signal.

As we learned in Chapter 1, each Campaign can have one or more Agent Pools associated with it. The first step in finding a live Agent is for Contact Center to select the Pool from which that Agent will be drawn. Here's how this is done:

3.1 Select a Pool

The first Pool that Contact Center finds with at least one idle Agent in it will get the call.

If a Campaign has more than one Pool, then the Pools are selected according to their Weight, as specified in the Campaign configuration. Weighting is applied in a method informally known as the "Weighted Random Shuffle." It is a bit like dealing a card game, where each Pool is a player:

- All the weights for all the Pools in this Campaign are added up. This gives the highest "card" value possible. For example, if we have 3 Pools, "A" with a weight of 5, "B" with a weight of 3 and "C" with a weight of 2, our highest card value possible is $5 + 3 + 2 = 10$. (In reality, all the numbers here are
floating point, so values like 5.5 or 2.318 are possible, but this example uses integers for simplicity.)

- Each Pool is assigned a value range that represents its proportion of the total weights. This is each Pool's "winning number range." In our example, Pool A's winning numbers are 0 through 5, Pool B's winning numbers are 5 through 8, and Pool C gets 8 through 10.

- A number is randomly generated between 0 and the total of the weights (our "highest card"). This is the card we will deal for this "hand." For example, the random number might be 6, so we just dealt a 6 card.

- If that number falls within a Pool's range of winning numbers, that Pool gets first chance at the call. In our example, Pool B would get first choice, as its winning numbers were 6, 7 and 8.

- If the first Pool selected has no idle Agents, we toss it out of the game, and deal another hand of "Weighted Random Shuffle." This time, we have only two players (Pools), A and C. We add up their weights and get a maximum value of $5 + 2 = 7$.

- We shuffle the cards and deal a random one with a value of between 0 and 7; this time we get a 2. Pool A is the winner. If Pool A has any idle Agents, one of them gets the call; if not, we declare C the default winner (since we have no more Pools/Players in the game). We look to Pool C now to see if there are any idle Agents in this Pool.

- If we get through an entire game of "Weighted Random Shuffle" without finding an idle Agent, the call is left in the queue.

---

### Step 4. Agent Selection

If more than one Agent is idle in the Pool selected in the step above, the idle Agents are sorted according to the Pool's Sort Agents by rules or Weighting Attribute. The top ranked Agent gets the call, based on these criteria:

- In order to be in a Pool in the first place, an Agent must possess the qualifying Attributes. You specify these when you create the Pool.

- The Pool Sort Agents by rules aggregate your Agents into sub-groups, based on their membership Attributes. Agents with equal values are in the same band and the bands are organized in ascending or descending order per your specifications.

- If multiple Agents occupy the same band, Contact Center has two ways to select from the idle Agents:
  - Round Robin - Contact Center gives the call to the Agent who has been waiting the longest for a call. This method is used if no Weighting Attribute has been set for this Pool.
  - Weighted Random Shuffle - if a Weighting Attribute has been set, Contact Center plays the Weighted Random Shuffle game described above with Agents as the players. The game is played only once; we have a winner every time. The winning Agent gets the call.

---

### Step 5. The Queue

The call queue has the following properties:

- If no idle Agents are available in any of this Campaign's Pools, the call is routed to the queue.

- If Contact Center cannot find an Agent, and the Campaign does not have a queue IVR configured, then the call will be rejected and a busy signal played to the carrier.

- Once a call is in the queue, Contact Center no longer searches for the best Agent and simply gives the call to the first available Agent in any of this Campaign's Pools.

#### 5.1 Adjusting the Queue Time Multiplier

On the surface, the Contact Center queue is a first in, first out device; that is the oldest call will be retrieved from the queue first. However, you can tell Contact Center to adjust the perceived "time in queue" by changing the Campaign's Queue Time Multiplier field value. Call Center will multiply the length of time a call has been in the queue by this value to determine which calls to take first. Setting the Queue Time Multiplier field to 2, for example, will force Contact Center to treat these calls as if they have been in queue twice as long as they really have, as shown in example 2-1.

<table>
<thead>
<tr>
<th>Actual Queue Time</th>
<th>Queue Time Multiplier</th>
<th>Perceived Queue Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 seconds</td>
<td>2</td>
<td>180 seconds</td>
</tr>
</tbody>
</table>

*Example 2-1: Queue Time Multiplier Example 1*

Setting the Queue Time Multiplier to 10 will cause Contact Center to think that a call that has been in queue for one minute has really been there for 10. Conversely, if you are taking calls that you don't mind sitting in queue, setting the Queue Time Multiplier to a positive number less than 1 will cause Contact Center to think the call has been in queue for less time than it really has. For example, setting the Queue Time Multiplier to .5 will cause Contact Center to treat calls in this Pool as if they were in Queue for only half the actual time, as shown in example 2-2.

<table>
<thead>
<tr>
<th>Actual Queue Time</th>
<th>Queue Time Multiplier</th>
<th>Perceived Queue Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 seconds</td>
<td>.5</td>
<td>45 seconds</td>
</tr>
</tbody>
</table>

*Example 2-2: Queue Time Multiplier Example 2*
3. Routing Attributes

What are Routing Attributes?

Routing Attributes are part of the LiveOps On-Demand Contact Center Platform call routing system. Routing Attributes are used to describe properties of an Agent. These properties determine membership in Agent Pools. Campaigns, in turn, look to one or more Agent Pools when distributing telephone calls to Agents.

Attributes can be used for other purposes than call routing, but for simplicity's sake, we generally refer to them as Routing Attributes.

To edit or create a Routing Attribute, click the Routing menu, then select Routing Attributes. The Attribute edit page contains three tabs: General, Stats and Links. Table 3-1 describes the fields found in the General tab. The Stats tab provides counts of the number of Agents who have this Attribute set, grouped by value. You'll need to save a newly created Attribute before these statistics will show up. The Links tab shows you which Pools are currently using this Attribute.

Attribute Field Descriptions

Table 3-1: Edit Attributes -> General Tab Fields

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Data Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute Name</td>
<td>String</td>
<td>This will appear throughout Contact Center, so choose something that is descriptive and easy to understand.</td>
</tr>
<tr>
<td>Category</td>
<td>Select</td>
<td>Select the tab this Attribute will appear on the Edit User screen. (You assign an Agent's Attribute values by editing their user account page). In general, you'll want to place your Attributes in the Routing tab, but there may be times when you want to use a different tab. The choice of tab location has no effect on Routing, it's just a way to organize your Attributes in the Edit User screen.</td>
</tr>
<tr>
<td>Status</td>
<td>Boolean</td>
<td>Attributes can be either &quot;Active&quot; or &quot;Retired.&quot; When you mark an Attribute as retired, it no longer appears in the list of active Attributes, unless you specifically request them using the &quot;Show Retired Attributes&quot; checkbook on the Attribute List page.</td>
</tr>
</tbody>
</table>
| Attribute Duration     | Select    | Set the duration of the Attribute:  
  - Normal attributes are static and permanent. This is the default Attribute type.  
  - Session attributes are static and transitory, for the duration of the Agent's session  
  - Temporal attributes are dynamic and transitory, changing within the session duration.  
  In general, all of the Attributes you create will be Normal Attributes. LiveOps staff use the other types for special purposes. |
| Value Type             | Select    | This sets the data type for this Attribute:  
  - Use Integer type to hold numeric values  
  - Use Yes/No for logical (boolean) values  
  - Use String for everything else  
  If you want to rank Agents on a scale of some kind, it probably makes sense to use integers, e.g. 1 through 5. (It's also a good idea to use the Comments field to describe your scale: does 1 mean the best or the worst?) If an Attribute can be described in simple "on or off" terms, a Yes/No type makes sense. String types let you use words to describe the Attribute. For example, you might want to separate your Agents according to their manager, or give them a team name - e.g. the "Blue Team," "Red Team," etc. |
| Default Value          | String    | Enter the value you want this Attribute to start with by default. Using default values is especially effective if you want to use this Attribute for randomly weighted call distribution, as all new Agents will get the same value for this Attribute. |
| Available for Reporting| Boolean   | This field controls whether or not the Attribute will appear in the Attribute field grouping in the Report Tool. |
| Machine Generated      | Boolean   | Contact Center uses some Attributes for its own purposes. These will be marked as Machine Generated, meaning this Attribute will contain values generated by Contact Center. If this is the case, values here should not be changed by hand, unless you know what you are doing. |
| Comment                | String    | It's always a good idea to describe anything clever you've done, especially in the wee hours. You won't remember how brilliant you were in the morning. |
4. Agent Pools

What are Agent Pools?

Agent Pools are a flexible and dynamic way to organize your workforce to meet the changing demands of your business. Agents who share similar Routing Attributes belong to the same Pool. You can create general Pools that admit all of your Agents, as well as more selective Pools, where only your best Agents, or those with a particular skill, will be admitted.

To create or edit an Agent Pool, select the Routing menu, then click Pools. The Pools list page works identically to the other list pages for Clients, Programs and Campaigns. Click the Add New Pool button or select an existing Pool and click its Edit Pool link to edit it. Table 4-1 describes the main Pool fields.

Pool Field Descriptions

Table 4-1: Pool General Tab Fields

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Data Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool Name</td>
<td>String</td>
<td>Enter a unique, descriptive name for this pool.</td>
</tr>
<tr>
<td>Disable the Pool</td>
<td>Boolean</td>
<td>Set this to &quot;Yes&quot; to exclude this pool from the call routing process.</td>
</tr>
<tr>
<td>Pool Rule</td>
<td>Rule</td>
<td>This control selects which Agents will be included in the Pool. You can add Pool Rules by clicking the Add Rule link. For each rule, choose a Routing Attribute by which you want to select Agents. In the adjacent Logic drop down, select the comparison operator to apply. Finally, in the Value field, type in the string or number this rule will use to compare to the Routing Attribute. For example, if you have an Attribute called &quot;Training Level&quot;, and you only want Agents who have a score of 5 or higher to be in this Pool, you would create the following Rule: Routing Attribute</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Training Level&quot;</td>
</tr>
<tr>
<td>Sort Agents by</td>
<td>Rule</td>
<td>If you want your Agents ranked within a Pool by a particular Attribute, use this control to set up the sort logic. You can sort on one more Attributes, and you can sort in ascending or descending order. For example, let's say you have a Pool Rule that includes Agents who have a &quot;Training Level&quot; Attribute of 3 or higher, and a &quot;Performance&quot; Attribute that represents how well each Agent did last month, on a scale of 1 - 10. To give the better performing Agents first chance at an incoming call, you could sort on Performance in descending order. To reverse that and give more practice to your lower performing Agents, change the sort order to ascending. When you sort Agents in this way, those Agents appearing in the top of the sort will always be given preference for the next call. Lower ranked Agents will only receive a call when the higher ranked Agents are busy or offline.</td>
</tr>
<tr>
<td>Dedicated For</td>
<td></td>
<td>This is an informational field only; you can't change this in the Edit Pools page. If this pool is associated with a Dedicated Room, that room name will appear here. If the words &quot;Not Dedicated&quot; appear, it means this Pool can be used by the General or other, non-dedicated call Rooms. Dedicated Rooms are a type of Line Group, part of the My Schedule Agent scheduling system.</td>
</tr>
<tr>
<td>Weighting Attribute</td>
<td>Select</td>
<td>Determines the Routing Attribute to use when selecting Agents using the Weighted Random Shuffle method.</td>
</tr>
<tr>
<td>Alert Waiting Agents</td>
<td>Select</td>
<td>The Phone Panel application has an &quot;Alert Me&quot; mode, whereby Agents can choose to remain idle, but not be given calls unless the number of calls in queue exceeds a preset level. If a Pool is set to &quot;Alert Waiting Agents,&quot; then any Agents who are in Alert Me mode will be notified when calls to this Pool exceed the limit. They can then choose to go online and take calls until the threshold has been cleared. After that, the Agent will be...</td>
</tr>
</tbody>
</table>
returned to Alert Me mode.

<table>
<thead>
<tr>
<th>Pool Priority</th>
<th>Select</th>
<th>Not used.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranking Attribute</td>
<td>Select</td>
<td>Not used.</td>
</tr>
<tr>
<td>Comment</td>
<td>String</td>
<td>It's always a good idea to describe anything clever you've done, especially in the wee hours. You won't remember how brilliant you were in the morning.</td>
</tr>
</tbody>
</table>
5. Call Routing Model Example

Routing Example: Integrity Financial Corp.

The LiveOps On-Demand Contact Center Platform's powerful call routing mechanism is designed to ensure your callers are connected to the right Agent. Whether your call flows are simple or complex, Contact Center Administrators use familiar business concepts to create routing scenarios without programming. This chapter shows in graphical terms how the Contact Center call routing components interrelate to create a routing model.

In this example, the Client, Integrity Financial Corp., offers two major services: Loans and Retirement Counseling. The LiveOps On-Demand Contact Center Platform represents these services as Programs. The Client sub-divides their services into Home and Auto Loans, and Silver and Gold levels of Retirement Counseling. LiveOps On-Demand Contact Center Platform maps these sub-divisions into Campaigns. Each Program is also directed to Spanish callers, so the Client has established Spanish Campaigns to handle those calls.

When a caller dials one of this Client's 800 numbers, the call is routed to the proper Campaign. Campaigns are configured to look at one more Routing Pools to find an Agent to handle the call. The Home Loans Campaign in this example derives Agents from the Home Loans Pool. This Pool requires Agents to have the "Home Loan" attribute equal to "yes". In our example, there are three Agents currently signed in and ready to take calls: Mike, Arnaud and Placido. All three meet this requirement (known as a Pool Rule), so all of them are able to receive Home Loan calls. By contrast, only Arnaud and Placido are enabled to...
To assign Attribute values to Agents:

- Select the **User Accounts** menu, then...
- Search for the individual Agent you wish to configure and click their **Edit** link, or...
- Use the drop down list to display users from a User Group
- Check the users you wish to modify
- Click the **Edit Attribute** button to set an Attribute value for the selected users

For more on users and Groups, see the [Contact Center Administrator Quick Start Guide, Chapter 8.](#)

As we mentioned above, the Retirement Program offers two service levels, Silver and Gold, represented by distinct Campaigns. The Gold Campaign requires Agents to have a "Retirement" Attribute greater than 2, representing their higher level of certification in this Program. Of all the available Agents, only Mike, with a Retirement Attribute value of 3, can take calls for this Campaign. The Silver Campaign can use lesser skilled Agents (Retirement > 1) but also draws from the Gold Pool to ensure enough Agents are available to handle the calls.

For Spanish speaking callers in either Program, the Spanish Campaigns draw from a single Pool. The Pool membership rule is "Language = Spanish." Only Placido meets this requirement, so he would get any call to this Campaign.

We've kept this example fairly simple. In reality, the Campaign configuration and Pool Rules you specify can be more complex, with multiple conditions and weights assigned to make sure your callers speak with the right Agent every time. But simple or complex, all of these routing components are set up through the Contact Center user interface, without programming.
6. Spanish Customer Service Scenario

In this chapter, we will create a sample Spanish language customer service Campaign. While this is a fairly simple routing need, it is also a common real world scenario. We will use the LiveOps On-Demand Contact Center Platform web site to create each of the required routing elements, outlined in the next section.

**Required Routing Components**
The Spanish Customer Service example requires the following components:

- A Client to own this Program: the "ABC Widgets Company".
- A general "Customer Service" Program to handle both both English and Spanish calls. (We are only creating the Spanish side of this scenario here.)
- A "Spanish" Routing Attribute, to identify Agents who can speak Spanish.
- The "Spanish" Agent Pool. All the Agents who have the appropriate Spanish Routing Attribute will belong to this pool.
- One or more Agents who have the Spanish Attribute.
- A "Spanish" Campaign that looks to the Spanish Agent pool.
- An incoming telephone number that points to the Spanish Customer Service Campaign.

Creating each of these components is detailed in the sections below.

**Which comes first? Parent-child relationships.**

Creating "parent" routing components before the "child" components can save you some back and forth work. We recommend that you create new routing components in the order presented in Figure 6-1. Note that this is only the recommended order. You are free to create routing components in any order that works for you.
Step 1: Create the "ABC Widgets" Client

The first step to set up a Spanish language customer service line is to create the Client component. The Client "owns" the Program and Campaign for the calls that come in on this line. In this example, the Client is the "ABC Widgets Co."

1. Sign into Contact Center. Your account must have Administrator privileges.
2. Select the Routing menu, then click Clients.
3. Click the Add New Client button.
4. In the Client Name field, type ABC Widgets Co.
5. Fill in the rest of the fields as you wish. They are not relevant to this example.
6. Scroll to the bottom of the screen and click Save Changes.

Step 2: Create the "Customer Service" Program

By creating a general Customer Service Program component, that handles both English and Spanish language calls, we can report on all customer service calls for both languages.

1. Select the Routing menu, then click Clients.
2. Click the Add New Program button.
3. In the Program Name field, type Customer Service.
4. You can enter a Description and any other Comments, then click Save.
Step 3: Create the "Spanish" Attribute

Using a simple Boolean (yes/no) Attribute allows us to group Agents into a Pool of Spanish speaking Agents.

1. Select the Routing menu, then click Routing Attributes.
2. Click the Add New Routing Attribute button.
3. In the Attribute Name field, type Spanish.
4. Set the Category to Routing. This will cause this Attribute to appear in the Routing tab of the edit User page.
5. Make sure the Status is Active.
6. Set the Attribute Type to Yes/No.
7. Most of your Agents probably won't speak Spanish, so set the Default Value to No.
8. You can leave the other fields blank.
9. Click Save Changes.

Step 4: Create the "Spanish Agent" Pool

In this step, we use the Spanish Attribute to define the membership requirement for the Spanish Agent Pool.

1. Select the Routing menu, then click Pools.
2. Click the Add New Pool button.
3. In the Pool Name field, type Spanish Agent Pool.
4. Click the Add Rule link in the Pool Rule control.
5. In the Routing Attribute drop down, select the Spanish Attribute you created above.
6. In the Logic drop down, select is equal to.
7. In the Value field, select Yes.
8. In this simple example, all of our Spanish speaking Agents are equally qualified to take calls, so we don't need to sort or weight them: leave the Sort Agents By and Weighting Attribute fields blank.
Step 5: Create the "Spanish Customer Service" Campaign

This Campaign will handle the calls coming into the inbound telephone number dedicated to the Spanish Customer Service line. Contact Center Campaigns are highly configurable, so we will only detail the fields that are relevant to this example scenario.

1. Select the Routing menu, then click Campaigns.
2. Click the Add New Campaign button.
3. In the Campaign Name field, type Spanish Customer Service.
4. Choose Customer Service from the Program drop down list.
5. Set the Max Queue Time to 180 seconds.
6. For the Queue IVR, select the Generic Queue IVR.
7. The rest of the fields in the General tab can be left with their default values.
8. Click on the Pools tab, then click the Add Pool link.
9. Choose Spanish Agent Pool from the Name drop down list.
10. The Weight field can be ignored for now.
11. Click Save Changes.

Step 6: Assign an Incoming Number

If your Contact Center has been provisioned with incoming telephone numbers, you can assign one of those now to the Spanish Customer Service Campaign.

1. Select the Routing menu, then click Incoming #s.
2. Use the Phone Number Search controls to locate the incoming number you want to use.
3. Check the check box for that number then click the **Edit Numbers** button.
4. In the **Edit Selected DNISes** dialog:
   1. Check the **Campaign** checkbox and use the drop down menu to select the **Spanish Customer Service Campaign**.
   2. Check the **Disabled/Enabled** check box and set the drop down menu to **Enabled**.
   3. Click the **Apply Changes to Incomings** button.

![Figure 6-8: Edit DNIS Dialog](image)

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**Step 7: Create a "Spanish Speaking" Agent**

In this scenario, we will create a new Agent from scratch. You can just as easily edit an existing Agent and give them the "Spanish" Attribute.

1. Select the **User Accounts** menu, then click **Edit Users**.
2. Click the **Add New User** button (or locate an existing Agent to edit)
3. Enter the Agent's name, user name and work phone (this is the number that will ring when this Agent gets a call)
4. Click the **Account Status** tab.
5. Enter a temporary password for this Agent. (When the Agent first signs into Contact Center, they will be prompted to enter a new password).
6. Click the **Routing** tab.
7. Locate the "Spanish" Attribute you created above.
8. Set the Attribute's value to **Yes**.
9. Scroll to the bottom of the page and click **Save Changes**.

![Figure 6-9: Edit User Page (Contact Info)](image)
Step 8: Testing the Campaign

You are now ready to test your campaign!

1. Sign out of Contact Center.
2. Sign into Contact Center as the Agent you created or edited above.
3. Go online (launch the Agent Phone Panel / Chat application)
4. From a phone other than the one assigned to the Agent, dial the incoming number you selected in step 6.
5. At this point, the Agent's phone should ring and the caller will be connected with that Agent.

To see the details of this call, you can use the Report Tool, Map or EyeOps tools. See the Contact Center Administrator's Quick Start Guide for more information on these tools.
7. Additional Scenarios

This chapter describes a few more call routing scenarios in outline form. If you are trying to set up Contact Center routing for the first time, we recommend you go through the Spanish Customer Service scenario in an earlier chapter first. That scenario is described in detail, with accompanying screen shots. The scenarios presented here assume a certain familiarity with Contact Center routing and so are shown in a more condensed format.

**Scenario 1: Overflow from Expert to General Agents**

The goal of this scenario is to have the "best" Agents get calls before less qualified Agents. If all the expert Agents are busy, then calls will overflow to a basic Agent Pool. If the number of basic Agents is insufficient to handle the call volume, calls can go to any Agent, regardless of their training, on the theory that it is always better to answer a call than have it sit in the Queue.

**Determining the Best Agents:**
For this scenario, the best Agents have the most training. We will represent this using a Routing Attribute that describes an Agent's training level. We will create a Pool that specifies how to sort Agents based on the "TrainingLevel" Attribute. For simplicity, there are three training levels:

- **Expert**—Agents have completed an advanced training course for this Program (TrainingLevel = 3)
- **Basic**—Agents have basic training in the Program (TrainingLevel = 2)
- **General**—Agents have no training in the Program (TrainingLevel = 1)

**Create the Training Attribute**
If you are not already signed into Contact Center, do so now. You will need to have Administrator privileges to create all of these components.

1. Select the Routing menu, then click Routing Attributes.
2. Click the Add New Attribute button.
3. Type in a name for this Attribute (e.g. "TrainingLevel").
4. Set the Category to Routing. This will make this Attribute appear on the Routing tab of the edit User screen.
5. Set the Status to Active.
6. Set the Attribute Type to Integer.
7. Set the Default Value to 1.
8. Set Available for Reporting to Yes.
9. Click Save Changes.

**Create the Agents**

1. Select the User Accounts menu, then click Edit Users.
2. Click the Add New User button (or locate an existing Agent to edit).
3. Fill in as much info as you want on the General tab (at the minimum, you must give the Agent an Account Name and a Chat Name).
4. Click on the Account Status tab. Make sure you set a Temporary Password for new users.
5. Set the Group to Agent.
6. Click Save Changes.

This Agent will inherit the default value for the TrainingLevel Attribute, 1, making them a "General" Agent. Repeat these steps for as many General Agents as you'd like to create. (You will need at least 2 Agents to complete this scenario.)

To create the "Expert" Agents, we will demonstrate how to change Attributes for multiple Agents at once.

1. Select the User Accounts menu, then click Edit Users.
2. Use the search controls to locate the Agents you want to designate as experts.
3. Check the checkbox next to each Agent.
4. Click the Edit Attribute button.
5. Select the TrainingLevel Attribute.
6. Enter a value of 3 in the Attribute Value.
7. Click Apply Change.

**Create the Pool**

The next step is to create the Agent Pool. As we noted at the beginning of this scenario, we need to create a Pool to specify the sorting strategy for the TrainingLevel Attribute.

1. Select the Routing menu, then click Pools.
2. Click the Add New Pool button.
3. Name this Pool Program 1.
4. Click the Add Rule link.
5. Select TrainingLevel from the Routing Attribute drop down menu.
6. Set the Logic field to is greater than.
7. Type 1 in the Value field (remember, we want to select Agents who have a value of 1 or more in the TrainingLevel Attribute).
8. Click the Add Sort Logic link.
9. Select TrainingLevel from the Routing Attribute drop down menu.
10. Set the Sort Order to Descending. This will cause higher ranked Agents to receive calls before lower ranked ones. Any available Agents with a TrainingLevel score of 3 (expert) will come before those with 2 (general), and those with 2 will come before those with 1 (untrained).
11. Click Save Changes.

**Setting up the Client, Program and Campaign**

Now that we have the Agent Pools to choose from, we can set up the Routing components. Since each successive piece depends on the previous one, you should do these steps in order.

**Create the Client**

1. Select the Routing menu, then click Clients.
2. Click the Add New Client button.
3. At minimum, provide the Client Name, for example, ABC Widget, Co.
4. Click Save Changes.

**Create the Program**

1. Select the Routing menu, then click Programs.
2. Click the Add New Program button.
3. Name this Program Program 1.
4. Select the Client (e.g. ABC Widget, Co.)
5. Click Save Changes.

**Create the Campaign**

1. Select the Routing menu, then click Campaigns.
2. Click the Add New Campaigns button.
3. Name this Campaign Campaign 1.
4. Set the Program field to Program 1.
5. Select a Queue IVR to play to your callers while they wait in the call queue. Contact Center comes with a professionally recorded generic queue IVR, or you might have created your own.
6. Click on the Pools tab.
7. Click the Add Pools link.
8. Select the Program 1 pool from the drop down menu.
9. Click Save Changes.

**Assign an Incoming Number**

1. Select the Routing menu, then click Incoming #s.
2. Use the Phone Number Search controls to locate the incoming number you want to use.
3. Check the checkbox for that number then click the Edit Numbers button.
4. In the Edit Selected DNISes dialog:
   1. Check the Campaign checkbox and use the drop down menu to select Campaign 1.
   2. Check the Disabled/Enabled check box and set the drop down menu to Enabled.
   3. Click the Apply Changes to Incomings button

That's it! You can now begin to take calls on this Campaign.

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**Scenario 2: Transfer to Supervisor**

The goal of this scenario is to have the ability to transfer a customer to a supervisor. This scenario uses the warm transfer function. Warm transfer is a way of conferencing the caller, the Agent and a third party (the supervisor, in this case). Contact Center implements warm transfer by sending a call from one Campaign (the "source" Campaign) to another Campaign (the "target" Campaign). For this scenario, the target Campaign will draw from a Pool of supervisors: these are Agents with a "supervisor" Attribute. We can use most of the same Routing components we created in Scenario 1 above for the source Campaign. We will need to create a new target Campaign to receive the transferred calls, as well as the supervisors' User Accounts, Routing Attribute and and Pool.

**Create the Supervisor Routing Attribute**

If you are not already signed into Contact Center, do so now. You will need to have Administrator privileges to create all of these components. For the "supervisor" Attribute, we'll use a simple logical "Yes/No" field:

1. Select the Routing menu, then click Routing Attributes.
2. Click the Add New Attribute button.
3. Type in a name for this Attribute (e.g. "Supervisor")
4. Set the Category to Routing. This will make this Attribute appear on the Routing tab of the edit User screen.
5. Set the Status to Active.
6. Set the Attribute Type to Yes/No.
7. Set the Default Value to No.
8. Set Available for Reporting to Yes.
9. Click Save Changes.
Create the Supervisor Accounts
The supervisor accounts are actually no different from a standard Agent's account. They are simply Agents with the "supervisor" Attribute. As noted in Scenario 1, you can set Attributes individually by editing a single Agent, or in a group, using the Edit Users page. Assuming you already have Agents you want to denote as supervisors, use the latter method:

1. Select the User Accounts menu, then click Edit Users.
2. Use the search controls to locate the Agents you want to designate as experts.
3. Check the checkbox next to each Agent.
4. Click the Edit Attribute button
5. Select the Supervisor Attribute.
6. Set the Attribute Value to Yes.
7. Click Apply Change.

Creating the Supervisor Pool
The Pool selects Agents with the Supervisor Attribute.

1. Select the Routing menu, then click Pools.
2. Click the Add New Pool button.
3. Name this Pool Supervisor.
4. Click the Add Rule link.
5. Select Supervisor from the Routing Attribute drop down menu.
6. Set the Logic field to is greater than.
7. Type 1 in the Value field (for "Yes/No" fields, a value of 1 (one) means "Yes" and a value of 0 (zero) means "No.")
8. Click Save Changes.

Create the Supervisor Transfer Campaign
Using a separate target Campaign and Agent Pool for the supervisor transfer calls has two main advantages:

- Your supervisors to be online but not directly answering customer calls.
- Calls transferred to this Campaign can also be tracked separately in the Report Tool.

1. Select the Routing menu, then click Campaigns.
2. Click the Add New Campaigns button.
3. Name this Campaign Supervisor Transfer.
4. Set the Program field to Program 1.
5. Select a Queue IVR to play to your callers while they wait in the call queue.
6. Save your changes.
7. Click on the Pools tab.
8. Click the Add Pools link.
9. Select the Program 1 pool from the drop down menu.
10. Click Save Changes.

Enable Warm Transfer
The source Campaign 1 (Campaign 1) can now be enabled to do warm transfer:

1. Select the Routing menu, then click Campaigns.
2. Locate Campaign_1 and click its Edit Campaign link.
3. Click the IVRs tab.
4. Set the Hold IVR field to Generic Hold IVR (or to a custom IVR you've already created).
5. Click the Telephony tab.
6. Set the Campaign Transfer Type to Warm Transfer.
7. Click the Add New Warm Transfer Campaign button.
8. Set the Transfer To field to Supervisor Transfer.
9. Type in a short Description, such as Supervisor Xfer. This will appear as one of the transfer options in the Agents' Phone Panel.
10. Click Save Changes.

That's it! Now, when your Agents take calls for Campaign 1, they have the option to transfer a call to a supervisor: